REMARKS

This Application has been carefully reviewed in light of the Final Office Action mailed September 26, 2007 and the Advisory Action Before the Filing of an Appeal Brief mailed on December 20, 2007. Claims 1-20 are now pending, with claim 1 being an independent claim. Applicant canceled Claim 21 in the November 26, 2007 response to the September 26, 2007 Final Office Action. The Applicant respectfully requests reconsideration and favorable action in this case.

Regarding the Claims

In the Final Office Action, independent claim 1 was rejected under 35 USC 103(a) as being unpatentable over Ambe (US Patent 7,061,876) in view of Doverspike et al (US Patent 6,970,417). In support of this rejection the Examiner set forth that "Ambe does not teach transmitting the packet along a second route in the system after a time of failure. In the same field of endeavor, Doverspike teaches a method responsive to ***a failure*** in a first path, rerouting traffic to a second communication path that had been identified prior to said failure." (emphasis added). The Examiner has failed to address each and every element of claim 1.

The present invention in claim 1 claims "responsive to the packet being received after a time of failure along a communication link between two of the plurality of nodes ***and in response*** to the route indicator field..." (emphasis added). The Examiner has failed to point out where in either reference this element is disclosed or taught. In fact, neither Doverspike nor Ambe discloses "and in response to the route indicator field..." As such, Applicant asserts that neither Ambe nor Doverspike, whether taken alone or in any reasonable combination discloses,

teaches or renders obvious the invention as claimed in claim 1. Therefore Applicant respectfully requests that this rejection be withdrawn.

Examiner maintains the rejection of claim 1 in the Advisory Action Before the Filing of an Appeal Brief mailed on December 20, 2007. Examiner argues that "Ambe teaches routing a packet in response to a MAC address list (Figure 9B), equivalent to Applicant's claimed route indicator field. Further, the MAC address list comprises the claimed limitation of knowing multiple routes being known prior to a time of failure." *See* Advisory Action, p. 2.

However, the MAC address list of Ambe is not equivalent to the Applicant's claimed route indicator field and no citation to where Ambe teaches "knowing multiple routes prior to a time of failure is provided."

In describing these limitations involving a route indicator field, the application states in relevant part:

> Figure 2 illustrates a packet format 20 according to a preferred embodiment and for use in connection with system 10 of Figure 1a. Packet format 20 includes various fields as known in the Ethernet art, and only some of which are shown by way of example. These fields include a source address field 20_1, a destination address field 20_2, a length field 20_3 and a data payload field 20_4. Other fields, although not shown, may be included as also known in the art, such as a preamble and a packet (or frame) start field. According to the preferred embodiment, however, packet format 20 includes an additional field 20_5, referred to hereafter as a link type field 20_5. Link type field 20_5 is so named because, as shown below, the state of the field indicates the type of link on to which the packet is routed, with one state in field 20_5 (e.g., 0) indicating a spanning tree link and another state in field 20_5 (e.g., 1) indicating a bypass link along system 10. In the preferred embodiment, link type field 20_5 is a one-bit field and it is contemplated that it could be a bit provided as an addition to existing Ethernet frames or, alternatively, it could be a bit that is already in the Ethernet frame yet where the function of that bit is changed to be consistent with the functionality described in this document as relating to link type field 20_5.

See Patent Application, p. 9. The Application further states:

> When a failure occurs in a link in system 10, that failure is detected according to known protocols. However, as an enhancement in a preferred embodiment, in response to the failure detection, a node within system 10 changes the state of link type field 20_5 so that each packet so changed will be routed along a bypass link, where recall by way of example that a binary value of 1 in link type field 20_5 causes this effect. Further, when a node within system 10 receives a packet with a binary value of 1 in its link type field 20_5, the receiving node does not consult its forwarding table for purposes of further routing the received packet, but instead it consults its bypass table to determine the next route for the received packet.

See Patent Application, p. 11. The route indicator field is further defined by Applicant as follows:

> In system 10, the route indicator field is a link type field 20_5, operable to indicate that the packet is to continue along a spanning tree route or a bypass route. In system 10', the route indicator field is a link set field $20'_3$, operable to indicate that the packet is to continue along a first set of links forming a first route, a second set of links forming a second route, and so forth for up to 2^M sets of links corresponding to a respective number of 2^M routes.

See Patent Application, p. 26. In contrast, the Ambe and Doverspike references do not disclose a route indicator field. Instead, they rely on the very type of routing that Applicant is trying to improve. With regard to the prior art, Applicant stated:

> If system 10 were implemented according to the prior art, then upon a failure of one of the links in Figure 1a, then a dynamic and automated technique is performed whereby a new spanning tree is defined among its various nodes. Particularly, in such a case, additional control messages are communicated among the various nodes so as to identify the failed link and to establish a new spanning tree. During this transition time, each node is required to flush information out of its respective forwarding table, and in response to the new control messages each forwarding table is re-built, which is sometimes referred to as a re-learn procedure. When the forwarding table is complete for each node, the system is said to have re-converged to a new spanning tree. As discussed earlier in the Background Of The Invention section of this

> document, however, this procedure takes time, and in some implementations may be disadvantageous or even prohibitive. Accordingly, the following discussion demonstrates how system 10, according to one preferred embodiment, provides an alternative manner of responding to a link failure and that improves upon drawbacks of the current state of the art.

See Patent Application, p. 8. Both the Ambe and Doverspike patents involve this type of prior art rather than the use of a route indicator field that includes a link type field. As the Examiner notes, Ambe does not utilize a route indicator field in the packet to route traffic but uses the MAC address list as well known in the art. Ambe states with regard to routing:

> Firstly, the spanning tree table 1 shown in FIG. 4 is a table prepared for each of the switches B1-B5 shown in FIG. 2 by preliminary and automatic learning. In the example of FIG. 2, identifiers (ID) "1"-"5" are assigned to five spanning trees, and an identifier and an MAC address of a root switch for each spanning tree are prescribed. All of the operation states thereof are made "active", and which spanning tree is the default spanning tree is shown.

See Ambe, column 4, lines 48-55. Applicant states on page 10 of the application with regard to MAC addresses:

> For reasons further discussed later, given such an association, if the node receives a packet of one of these two associated ports and the packet is indicated to be routed via a bypass link, then the packet is then transmitted by the node out of the other and associated node, without reference to the destination MAC address in the packet. In the current example, therefore, and unlike the prior art forwarding table used in a spanning tree network and which associates an outgoing port with an in-packet destination MAC address, in the preferred embodiment the bypass table associates two ports at the same node.

Doverspike also does not reroute traffic after a time of failure "in response to the route indicator field." Rather, it uses the well-known technology that Applicant notes is time-consuming and requires extensive use of control messages. Doverspike states:

> As discussed above, in the event one of the communication nodes 202-208 or transmission lines 250-256 along the normal communication path fails or is determined to have an unacceptable error condition, the optical mesh network 130 can self-repair by establishing a restoration communication path. In the exemplary mesh network 130, *the restoration path is established by one of the end nodes 200 or 208 transmitting commands to other nodes 200-218 instructing them to reconfigure themselves to form the restoration path.* [emphasis added].

See Doverspike, column 4, lines 39-48. Because the structure disclosed in the Ambe and Doverspike references are not intended to or capable of providing the functionality provided by Claim 1 because they do not include the link type field in their alleged equivalent of a route indicator field, Applicant respectfully requests that the Examiner withdraw this rejection.

Regarding the rejection of claims 2-20, as these claims depend either directly or indirectly from claim 1, and therefore incorporate all the limitations therein of independent claim 1, Applicant respectfully asserts that these claims are patentable over the cited references, and requests that the rejection of these claims be withdrawn.

CONCLUSION

Applicant has made an earnest attempt to place this case in condition for allowance. For the foregoing reasons and for reasons clearly apparent, Applicant respectfully requests full allowance of all pending claims. If there are any matters that can be discussed by telephone to further the prosecution of this Application, Applicant invites the Examiner to contact the undersigned attorney at 512-306-8533 at the Examiner's convenience.

Respectfully submitted,

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